

ABSTRACT OF THE DISCLOSURE

A conventional aluminum killed alloy Steel for case hardening of gear(s) and/or shaft components consisting of 0.10 to 0.30 weight % Carbon, 0.15 to 0.35 weight % Silicon, 0.8 to 1.5 weight % Chromium, 0.6 to 1.5 weight % Manganese, 0.017 to 0.040 weight % Aluminum, and balance iron including impurities, produced by vacuum degassing and alike routes. Gear(s) and/or shaft components made by the above steel when treated by Modified Carbonitriding followed by Hard Shot Peening process provide both superior bending fatigue strength and pitting fatigue life, capable of withstanding higher torque levels and speeds.

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